

REMARKS

The Applicant has added Claims 12-14. New Claim 12 is an independent claim substantially combining the subject matter of original Claims 1 and 4. New Claim 13 is a dependent claim that is similar to original Claim 5 except that it depends on new Claim 12. New Claim 14 is an independent claim that substantially corresponds to original Claims 1 and 7. Entry into the official file and consideration on merits is respectfully requested.

Claims 1 and 11 have been amended to recite that the apparatus contains a plurality of UV lamps including an upstream UV lamp. Both claims also now recite that the upper and lower fluid diverters are positioned such that all diverters are downstream of the upstream UV lamp. Support is readily found in the drawings as well as in the text at the top of Page 5 of the Applicant's Specification. Entry into the official file and consideration on the merits is respectfully requested.

The Applicant acknowledges the rejection of Claims 1, 2, 4-6, and 10 under 35 U.S.C. § 102 over Wekhof. The Applicant respectfully submits that Wekhof is directed to completely different apparatus and Claims 1, 2, 4-6, and 10 are patentable for the reasons set forth in detail below.

The essence of Wekhof can be seen in Figs. 2 and 4 of that disclosure wherein fluid enters a reaction chamber from the left and encounters a cone shaped diverter 17 and proceeds through the reactor to an outlet on the right side. The fluids passing through the reactor encounter UV lamps 16 and various diverters 18. Wekhof teaches that the fluid diverter 17 is a generally conical member and serves to spread the incoming fluid as it enters the main part of the chamber in Column 4 beginning at Line 55. That structure is completely different from the structure set forth in Claims 1, 2, 4-6, and 10. Claim 1 has no need for a generally conical diverter 17 that spreads incoming fluids and enters the main part of the chamber. Instead, the Applicant in Claims 1, 2, 4-6, and 10 employs UV lamps as the structure that the fluids first encounter, as opposed to a fluid diverter which is

conically shaped or otherwise. The Applicant has discovered that there is no need for that structure in Claims 1, 2, 4-6, and 10 as set forth in the top paragraph of Page 5 of the Applicant's Specification.

Accordingly, the Applicant respectfully submits that Wekhof is inapplicable to Claims 1, 2, 4-6, and 10 because Wekhof fails to disclose, either explicitly or implicitly, every feature in those claims. Claims 1, 2, 4-6, and 10 specifically recite that the upper fluid diverter and lower fluid diverter are, among other things, positioned such as that all diverters are downstream of the upstream UV lamp. That is not at all the case in Wekhof which provides a generally conically shaped diverter 17 right at the entry way of the reactor. The Applicant's Claims 1, 2, 4-6, and 10 do not do this. Therefore, the Applicant respectfully requests withdrawal of the rejection of Claims 1, 2, 4-6, and 10 over Wekhof.

The Applicant further respectfully submits that Claim 4 is separately patentable over Wekhof. In that regard, the Applicant notes with appreciation the Examiner's helpful comments concerning a so called "L-shaped center fluid diverter 17 (e.g., L-shaped in cross-section)." Unfortunately, that is not what the Applicant claims in Claim 4. The Applicant claims "an L-shaped center fluid diverter." The Applicant does not claim a center fluid diverter that is L-shaped in cross-section. The actual diverter itself is L-shaped. This is sharply contrasted to Wekhof which discloses a generally conically shaped fluid diverter that happens to have an L-shape in cross-section. As noted above, however, that is not what the Applicant claims. The Applicant does not claim a diverter that has an L-shape in cross-section, the Applicant claims an L-shaped diverter. The diverter 17 in Wekhof is specifically described as a generally conical member at Column 4 Lines 58-59. Therefore, Claim 4 is also patentable.

The Applicant acknowledges the rejection of Claim 3 under 35 U.S.C. § 103 over the hypothetical combination of Norimitsu with Wekhof. The Applicant has already provided specifically claimed differences of Claim 1 over Wekhof. The Applicant respectfully submits that hypothetically combining Norimitsu with Wekhof does nothing to cure the deficiencies already noted. Accordingly, even if one of ordinary skill in the art were to take the vertically positioned fluid diverters of Norimitsu and combine them with the device of Wekhof, the result would still be a structure that fails to teach or suggest the subject matter of Claim 3 (which inherently includes the subject matter of Claim 1). Withdrawal of the rejection is respectfully requested.

The Applicant acknowledges the rejection of Claim 7 under 35 U.S.C. § 103 over the hypothetical combination of Bergmann with Wekhof. The Applicant has already provided substantial differences of the subject matter of Claim 1 over Wekhof and respectfully submits that hypothetically combining Bergmann with Wekhof would still fail to teach or suggest the subject matter of Claim 7, which depends from Claim 1. Moreover, the Applicant respectfully submits that there is no disclosure and no teachings or suggestions in Bergmann to include a UV sensor extending into the reaction chamber for each UV lamp as recited in Claim 7. Claim 7 recites a plurality of UV lamps, which means that there is more than one lamp. Each lamp has a corresponding UV sensor according to Claim 7. That is neither taught nor suggested by Bergmann. Instead, Bergmann employs one UV sensor 19 in the reactor to determine the intensity of UV radiation within the chamber. There is utterly no teaching or suggestion that there should be a UV sensor associated with each and every lamp. Accordingly, even if one of ordinary skill in the art would make the hypothetical combination, the result would still be completely different from the subject matter of Claim 7.

The Applicant notes that the same concept of the failure of Bergmann to teach or suggest a UV sensor associated with each and every UV lamp in the reaction chamber also does not apply to new Claim 14.

The Applicant acknowledges the rejection of Claims 8 and 9 under 35 U.S.C. § 103 over the hypothetical combination of Veloz with Wekhof. The Applicant has already provided evidence that Wekhof is inapplicable to Claim 1 and respectfully submits that hypothetically combining Veloz with Wekhof would fail to provide teachings or suggestions that would cure those deficiencies. Thus, even if one of ordinary skill in the art would hypothetically combine the number of lamps from Veloz with Wekhof, the result would still fail to teach or suggest the invention or would fail to teach or suggest the structure recited in Claims 8 and 9. In fact, the hypothetical combination of Veloz with Wekhof would result in a device having far more UV lamps than the number recited in Claims 8 and 9. Withdrawal of the rejection is accordingly respectfully requested.

The Applicant acknowledges the rejection of Claim 11 under 35 U.S.C. § 103 over the hypothetical combination of Wedekamp with Wekhof. Wekhof is inapplicable to Claim 11 inasmuch as it fails to disclose, teach or suggest a plurality of UV lamps including an upstream UV lamp and an upper fluid diverter and a lower fluid diverter position such as all diverters are downstream of the upstream UV lamp. In sharp contrast, Wekhof specifically provides for a generally conically shaped diverter 17 introduced at the lead portion of the entrance into the reaction chamber.

Wedekamp also fails to provide teachings or suggestions that would lead one of ordinary skill in the art toward the subject matter of Claim 11. Although Wedekamp discloses a generally circularly shaped reactor, hypothetically changing the Wekhof reactor into a circular reactor would still result in a structure completely different from that recited in Claim 11 inasmuch as there would

be an utter failure to disclose teach or suggest upper and lower fluid diverters' positions such that all diverters are downstream of the upstream UV lamp. Withdrawal of the rejection of Claim 11 based on the hypothetical combination of Wedekamp with Wekhof is respectfully requested.

In light of the foregoing, the Applicant respectfully submits that the entire application is now in condition for allowance which is respectfully requested.

Respectfully submitted,



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